(No Model.)

B. H. TOQUET.

CALIPERS OR DIVIDERS.

No. 434,742. Patented Aug. 19, 1890.

Fig. 5.

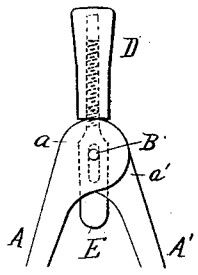


Fig. 1.

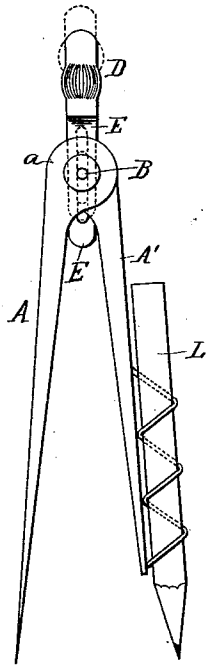


Fig. 2.

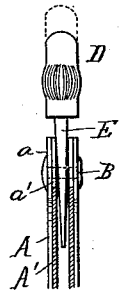


Fig. 6.

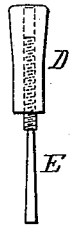


Fig. 3.

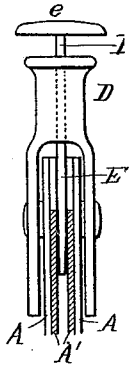


Fig. 4.

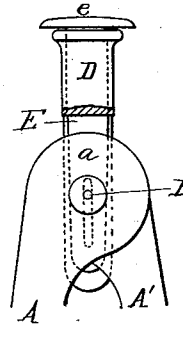
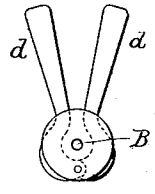


Fig. 7.



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UNITED STATES PATENT OFFICE.

BENJAMIN H. TOQUET, OF WESTPORT, CONNECTICUT.

CALIPERS AND DIVIDERS.

SPECIFICATION forming part of Letters Patent No. 434,742, dated August 19, 1890.

Application filed April 24, 1890. Serial No. 349,299. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN H. TOQUET, a citizen of the United States, and a resident of Westport, Fairfield county, Connecticut, have invented certain Improvements in Compasses for Drafting, of which the following is a specification.

The main object of my invention is to provide inexpensive drafting-compasses, which will not be liable to get out of order, and with which an ordinary lead-pencil can be used.

My improvements may, however, be applied to more expensive makes of compasses for drafting.

In the accompanying drawings, Figure 1 is a side view of a pair of compasses provided with my improvements. Fig. 2 is a corresponding edge view, partly in section, of the upper part of the same compasses. Figs. 3 and 4 are views of a modification drawn to a somewhat larger scale. Figs. 5 and 6 are views of another modification, and Fig. 7 is a view of a still further modification.

A A′ are the legs of the compasses, which may be economically made of sheet metal of U-section, with corresponding ears or lugs *a a′* at the upper ends, through which passes a central pivot or hinge pin B, by which the two legs are hinged together.

A wedge-piece E is inserted between the pairs of lugs of the two compass-legs, and this wedge-shaped piece is slotted so as to fit over and be guided by the pivot-pin. In Figs. 1 and 2 I have shown this wedge-piece as a part of the handle D, by which the instrument is to be manipulated. By pushing this handle in so as to force the wedge between the hinging lugs of the compass-legs, the friction between the lugs will be so far increased that the compass-legs will remain in the position to which they are adjusted with sufficient security to enable them to be conveniently used in drawing curves or circles of a size determined by the position to which the legs are moved apart or toward each other. Although it is convenient to make this wedge in one piece with the handle of the instrument, it may be made separate, as shown in the modification illustrated in Figs. 3 and 4. In this case the handle D is made with forked legs, to embrace the pivoting-lugs of the compass-legs. The wedge-piece E passes vertically through the finger-piece D and enters between the two pairs of lugs, as shown in Fig. 3, and is slotted, as indicated by the dotted lines in Fig. 4, for the passage of the pivot or hinge pin of the compasses. This wedge-piece is provided with a head or cap *e*, by which the wedge may be forced in between the lugs to tighten the hinge-joint, or withdrawn to the extent permitted by the slot in the wedge-piece to free the hinge-joint.

In the modification illustrated in Figs. 5 and 6, the wedge-piece E is intended to be drawn upward to tighten the joint, and has at its upper end a screw-threaded stem entering a screw-threaded opening in the handle or finger-piece D of the compass. The lower end of this handle or finger-piece bears against the upper edges of the lugs of the hinge, so that by turning this finger-piece the wedge may be drawn up to tighten the joint or may be let down to free the hinge-joint.

In the modification illustrated in Fig. 7, the wedge-piece is shown as being made in two parts pivoted to washers or to the lugs of one of the compass-legs, and the extended portions *d* of these wedge-pieces extend upward to within a short distance of each other, and so that they can be nipped together by the finger and thumb to force the wedge-pieces in between the lugs of the hinge-joint. These extensions at the same time form the handle or finger-piece by which the instrument may be manipulated.

As the inexpensive instruments of the character described are especially adapted for pencil-compasses for the use of school children in drafting, I provide one of the legs of the compasses with a device by which an ordinary lead-pencil may be used therewith. This device consists simply of an open spiral wire or band secured by solder or other means at each or some of its coils to the pencil-leg of the compass, so as to be practically inelastic. The diameter of these coils is such that an ordinary lead-pencil L, as shown in Fig. 1, will fit tightly therein, so that by turning the latter the spiral will act as a feed-screw to cause the pencil to advance or recede longitudinally, according to the direction in which it is turned. At the same time the pen-

cil will be quite firmly held, so that it cannot be pushed or pulled longitudinally without the application of great force.

I claim as my invention—

1. Drafting-compasses having legs with hinging lugs, an adjustable wedge acting on these lugs, and the hinge-pin passing through the lugs, substantially as and for the purpose described.

2. Drafting-compasses having legs with hinging lugs, and having their manipulating-handle provided with a wedge to act on the said lugs, and a hinge-pin passing through the lugs, substantially as set forth.

3. Drafting-compasses having the legs provided with hinging lugs, an adjustable slotted wedge-piece between the hinging lugs, and a hinge-pin passing through said lugs and wedge-piece, substantially as described.

4. Drafting-compasses having the legs formed of grooved sheet metal with pairs of hinging lugs at their upper ends, and a slotted wedge-piece entering between the pairs of lugs and a hinge-pin passing through said lugs and wedge.

5. Drafting-compasses having hinged legs and having fixedly secured to one of the legs, so as to be inelastic, an open spiral wire, in which an ordinary pencil will fit tightly and which acts as a feed-screw on the pencil to advance or recede it as it is turned in the spiral, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN H. TOQUET.

Witnesses:

EDITH J. GRISWOLD,

JOHN REVELL.